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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,390	02/11/2004	Arlie R. Conner	59516US002	3917
32692	7590	07/13/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			TRUONG, BAO Q	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/776,390	Applicant(s) CONNER, ARLIE R.	
	Examiner Bao Q. Truong	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 5-10, 16 and 18-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by R.C. Bastien [US 2,587,956].

Regarding claim 1, R.C. Bastien discloses an optical system [light projecting apparatus] including an image-forming device and an illumination system having a light source module [1, 2 and 5], a first meniscus lens [I1], a second meniscus lens [I2] with both convex and concave sides as claimed, and the light source module having an emitting surface [at 1] and a substantially optically clear dome [4] disposed over the emitting surface [1] (figure 1, column 1 lines 40-44, column 4 lines 57-75, column 6 lines 60-70).

3. Claims 11, 14, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Walter D'Arcy Ryan [US 1,428,662].

Regarding claims 11 and 15, Ryan discloses an illumination system having a plurality of light source modules [11, 12], a system of optical elements having a plurality of pairs of meniscus lenses [15, 16, 18, 19], each pair [15 and 16; 18 and 19] being

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associated with a light source [11; 12] and including a first meniscus lens [15, 18] and a second meniscus lens [16, 19], and wherein all first meniscus lenses [15, 18] have substantially the same shape and size and all second meniscus lenses [16, 19] have substantially the same shape and size, and the plurality of light source modules [11, 12] being disposed within a non-radially symmetrical aperture [of housing 10] (figure 2).

Regarding claim 14, Ryan discloses the plurality of the pairs of meniscus lens [15, 16, 18, 19] being configured substantially as a double-layered rectangular closely packed array and the plurality of light source modules [11, 12] being disposed to substantially track that configuration (figures 1-2).

Regarding claim 17, Ryan discloses each light source module [11, 12] having an emitting surface [filament] and a substantially optically clear dome [envelope] disposed over the emitting surface (figure 2).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over F.W. Gehrke [US 1,932,817] in view of Lammers et al. [US 6,478,453].

Regarding claim 1, F.W. Gehrke discloses an optical system [light projecting apparatus] including an image-forming device and an illumination system having a light

source module, a first meniscus lens [A], a second meniscus lens [B] with both convex and concave sides as claimed, and the light source module having an emitting surface inherently (figures 1-2, title, whole document). F.W. Gehrke does not clearly disclose the substantially optically clear dome disposed over the emitting surface.

Lammers et al. discloses a light projecting apparatus having a light source module [light emitting diode 3] having a substantially optically clear dome [21'] disposed over the emitting surface [at 21] (abstract, figure 2B).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the light source module of F.W. Gehrke with the light emitting diode with the substantially optically clear dome disposed over the emitting surface as taught by Lammers et al. for purpose of providing an advantageous way of using light emitting diode, such as: increasing brightness while saving electrical energy and controllable focusing light.

Regarding claim 3, F.W. Gehrke discloses the first and second lenses [A, B] being held together by an optically clear material [S] (figure 1).

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over F.W. Gehrke [US 1,932,817] and Lammers et al. [US 6,478,453] in view of W.G. Wolfe [US 1,900,966].

Regarding claim 2, F.W. Gehrke discloses the first and second lenses [A, B] but does not clearly show the first lens being contact with the second lens.

W.G. Wolfe teaches the two lenses [3] being contact each other to have no refractive effect on a light beam in a projecting apparatus (figures 1-2, page 2 lines 45-55).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the two lenses of F.W. Gehrke being in contact together as taught by W.G. Wolfe to eliminate refractive effect on a light beam for purpose of providing an advantageous way of brightness improvement of a projection apparatus.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan [US 1,428,662] in view of W.G. Wolf [US 1,900,966].

Regarding claim 12, Ryan discloses the first and second lenses [15, 16] but does not clearly show the first lens being contact with the second lens.

W.G. Wolfe teaches the two lenses [3] being contact each other to have no refractive effect on a light beam (figures 1-2, page 2 lines 45-55).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the two lenses of Ryan being in contact together as taught by W.G. Wolfe to eliminate refractive effect on a light beam for purpose of providing an advantageous way of brightness improvement.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan [US 1,428,662].

Regarding claim 13, Ryan discloses the plurality of the pairs of meniscus lens [15, 16, 18, 19] being configured substantially as a double-layered rectangular closely packed array and the plurality of light source modules [11, 12] being disposed to substantially track that configuration (figures 1-2). Ryan does not disclose the double-layered hexagonal. This is considered to be changed in shape.

Since it has been held by the courts that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the double-layered rectangular of Ryan with the double-layered hexagonal shape because it appears that the disclosed device would perform equally well shaped as disclosed by the hexagonal shape.

#### ***Allowable Subject Matter***

9. Claims 5, 6, 9, 10, 16, 18-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Claims 5 and 18, the light source module comprises a pyramid collector disposed over the emitting surface.

Claims 6, 9 and 10 are dependent on claim 5.

Claims 7 and 22, the light source module comprises a plurality of emitting surfaces disposed next to each other and the concave side of the first meniscus lens faces the emitting surfaces of the light source module for receiving light therefrom.

Claim 8 is dependent on claim 7.

Claims 19-21 are dependent on claim 18.

Claim 16, the illumination further comprises an image-forming device disposed for being illuminated at an angle and having a plurality of mirrors rotatable about a pivot axis, and the non-radially symmetrical aperture has a long dimension and a short dimension and is oriented so that the long dimension is aligned with the pivot axis of the mirrors of the image-forming device.

Claims 23-27 are dependent on claim 22.

The limitations discussed above are neither disclosed nor suggested by the prior art of record.

### ***Response to Amendment***

11. Applicant's amendments with respect to claims 1-3 and 5-27 have been considered but are moot in view of the new ground(s) of rejection as indicated above.



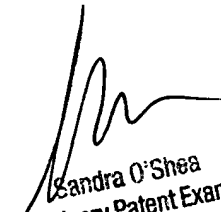
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q. Truong whose telephone number is (571) 272-2383. The examiner can normally be reached on Monday-Friday (8:00 AM - 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bao Q. Truong  
Examiner  
Art Unit 2875



Sandra O'Shea  
Supervisory Patent Examiner  
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